

PROGRAM MANAGEMENT DIRECTIVE



PMD R-S 0042(3)/PE 35130F

DATE 22 June 1982

ISSUED BY AF/RDS



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D C
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PMD NO: R-S 0042(3)/PE 35130F

DATE: 22 JUN 1982

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HQ USAF/RDSL
694-8570

PROGRAM MANAGEMENT DIRECTIVE
FOR
CONSOLIDATED SPACE OPERATIONS CENTER

FOR:

Implementing Command	- AFSC
Operating Agency	- Space Command*
OT&E Agency	- AFTEC
Participating Commands and Agencies	- ADC, SAC, AFCC, ESC, AFTAC, ATC, MAC
Supporting Command	- AFLC

*Note: Designation of the operating agency is consistent with establishment of Space Command. All agencies should continue activities as directed herein until details of Space Command implementation are promulgated.

1. Specific Purpose:

a. This directive provides for the development and acquisition of a Consolidated Space Operations Center (CSOC). The CSOC will provide the Department of Defense (DOD) with significantly enhanced capabilities to conduct space launch and orbital operations. The major capabilities of the CSOC include satellite tracking, telemetry data analysis, command and control services for orbiting satellites and a secure dedicated facility from which to plan and conduct military space Shuttle missions. This directive supersedes PMD R-S 0042(2), dated 4 December 1980, to reflect the FY 83 amended President's Budget and the Air Force FY 84-88 Program Objective Memorandum (POM). The POM provides a late CY 1986 Initial Operating Capability for satellite control and a late 1987 IOC for Shuttle control.

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b. The CSOC will function as an element of an integrated Space Control Network (SCN). The SCN is intended to meet Air Force objectives for security, survivability, capacity and responsiveness of control of space systems in accordance with established policy (reference AF/CC letter, Subj: Air Force Satellite Control Policy, 27 Mar 1982). The goal of the SCN is to provide an enduring space control capability commensurate with the need for space systems through the conflict spectrum. The SCN encompasses the Air Force Satellite Control Facility, the CSOC and the ground control segments of the Defense Support Program, Global Positioning System, Defense Meteorological System, Defense Satellite Communications System as well as future systems.

c. The CSOC location will be Colorado Springs, CO area. The Environmental Impact Analysis process was completed in February 1981 and final site selection was announced in March 1981.

2. Program Summary:

a. References: See Annex A.

b. Priority: USAF Precedence Rating 2-7 and Force Activity Designator II will apply to the CSOC. For direct support of launch and orbital operations the CSOC will assume the payload priority should a higher precedence be required.

c. Program Objective: The objective of the CSOC is to provide the nation with more robust and secure control of military space operations and increased efficiency and economy in providing these capabilities. The CSOC will combine in one physical location those command and control functions needed to conduct DOD Space Shuttle and assigned satellite missions.

d. Background and Justification:

(1) Two evolving factors have led to the need for a capability to provide an effective and efficient way of meeting DOD space launch and orbital control requirements:

(a) The first is the vulnerability of the Satellite Test Center (STC) in Sunnyvale, CA. While the STC performs its functions satisfactorily, its location is undesirable for a critical defense facility. Located in a crowded industrial park in the vicinity of three major earthquake faults, the STC is vulnerable to both man-made and natural threats.

(b) The second factor is the planned increase in DOD use of the Space Shuttle. While initial DOD Shuttle missions will be operated from Johnson Space Center (JSC), configured in the Controlled Mode, this is only an interim solution which does not meet the DOD requirements of survivability, security, capacity, positive control, and operational flexibility.

(2) The requirements for satellite and DOD Shuttle control capabilities were documented in two Mission Element Need Statements. These MENs were approved by SECDEF on 29 Sep 79 (see Annex A).

e. General Program Description: This PMD directs full scale engineering development, construction, systems acquisition and initial operation of a Consolidated Space Operations Center. The program will accomplish the following:

(1) Construction of the CSOC as a Priority A security facility to include technical space, engineering, administrative, and support areas, antenna support buildings and power plant as required. Provisions for red and black power, signal, and grounding systems shall be in accordance with NACSIM 5203.

(2) Conduct systems engineering analysis to determine the degree of integration between CSOC elements. In particular, this analysis will determine the appropriate degree of functional and physical integration between satellite control and Shuttle control elements in the areas of training, resource scheduling and control, ADP, communications, displays and personnel. Measures of merit for this analysis will include mission effectiveness, economy, efficiency and flexibility within the constraints of security and interoperability between CSOC and both STC and JSC. The results of this analysis will be reflected in the baseline configuration for CSOC.

(3) Equip the satellite control element of the CSOC with technical equipment and software based on that being developed under the SCF Data System Modernization (DSM) project (PE 35110F). Provide automated SCN scheduling and control systems to allow these functions to be performed at either CSOC or the STC.

(4) Equip the Shuttle control element of the CSOC with technical equipment and software based on the design resulting from the engineering analysis and tradeoffs conducted per paragraph 2.e(2).

(5) Integrate the CSOC into existing command and control networks for satellite control (currently with a single control node at the Air Force Satellite Control Facility's Satellite Test Center) and for Space Shuttle Control (currently NASA's Ground Space Tracking and Data Network). Provide facility and network communications interfaces between the network operating elements at the CSOC, SCF remote tracking stations, Satellite Test Center, Johnson Space Center, Eastern and Western Space and Missile Centers, 4000TH Satellite Operations Group, Space Defense Operations Center (SPADOC), Air Force Global Weather Central, the NASA communication system (NASCOM), DOD and NASA control and data relay systems including the Tracking and Data Relay Satellite System (TDRSS), and other satellite command control elements as required.

(6) Conduct analysis to determine the appropriate degree of interoperability and standardization between the CSOC and both STC and JSC. Provide CSOC technical interfaces to achieve this interoperability.

(7) Conduct engineering analysis and trade studies to determine appropriate simulator systems to support requirements for Shuttle operations, satellite operations and Payload Specialist training. Acquire a CSOC simulation system as determined by this analysis and directed by HQ USAF.

(8) Conduct a system engineering analysis to determine the appropriate degree of mutual support, interoperability and standardization between the SPADOC, CSOC and other elements of the SCN. This mutual support can include (but not be limited to) sharing of technical and support facilities (e.g. ADP, communications), and sharing of personnel and related functions (e.g. computer programmers, computer algorithms). Develop appropriate interfaces with the

SPADOC in the areas of status, space asset protection measures, and other information or data to be determined by specific Memoranda of Agreement between ADC and AFSC and associated Interface Control Documents.

(9) Provide data for siting a Defense Satellite Communications System (DSCS) AN/GSC 39 terminal at CSOC consistent with the overall CSOC facility plan. The construction of this terminal will begin in FY 82.

(10) Provide CSOC facilities, emergency power, and secure communications to accommodate the Global Positioning System (GPS) Master Control Station (MCS) at CSOC. The MCS will be located within the CSOC facility; mission equipment will be acquired and installed by the GPS program (PE 35165F).

(11) Provide a backup capability for operational satellite programs transitioning to the Data System Modernization (DSM) configuration at the STC. The initial backup capability should support operations consistent with the first programs transitioning to DSM at the STC in the mid 1985 timeframe.

(12) Operational capability milestones for CSOC are defined as follows:

(a) Satellite Operations Complex: IOC for the SOC is planned for late CY 1986. IOC will consist of four Mission Control Complexes and associated network scheduling and control capability to provide satellite tracking, telemetry and commanding support to assigned programs. Backup for high priority satellite operations assigned to the STC will also be provided. FOC will occur when the capability is demonstrated to continue network functions in support of all critical satellite operations in the event of STC loss.

(b) Shuttle Operations and Planning Complex: IOC for SOPC is planned for late CY 1987. IOC will consist of a Flight Control Room and associated network scheduling and control capability to perform flight planning and control of DOD Shuttle missions. NASA would flight follow initial missions in a "hot shadow" mode from Johnson Space Center. FOC will occur when the capability is demonstrated to plan and conduct all DOD Shuttle missions including support of simultaneous Shuttle flights.

3. Program Management Direction: The following actions are mandatory. AF/RDS will be notified immediately of any inability to comply.

a. Responsibilities:

(1) HQ USAF will:

(a) Provide essential policy and program guidance.

(b) Budget and provide funds for PE 35130F.

(c) Review and approve the initial CSOC System Operational Concept and approve revisions as required.

(d) Establish CSOC operational interfaces.

(e) Review and approve CSOC operational/mission requirements.

(2) AFSC will:

(a) Accomplish the CSOC program, as described in paragraph 2.e, in accordance with AFR 800 series regulations and implementing directives.

(b) Provide centralized management for research, development, acquisition, installation, test and evaluation (except for management of OT&E) of the CSOC. Include management provisions to coordinate the related development of the Controlled Mode at JSC and the Data System Modernization (DSM) at the SCF. Insure that interoperability is maintained between the CSOC satellite control segment and the SCF with DSM; and between the CSOC Shuttle control segment and the JSC Controlled Mode in accordance with approved operations concepts. Establish a baseline defining the degree of physical and functional integration of CSOC satellite and Shuttle control segments while maintaining interoperability (ref 2.e(2)).

(c) Continue planning for the operation and maintenance of CSOC pending Space Command activation and transition. Appropriate Memoranda of Agreement between AFSC operating elements and other commands and agencies will be executed to document operational interface requirements.

(d) Prepare and publish a Program Management Plan by Sep 82. Copies will be forwarded to AF/RDSL, AFTEC and participating commands.

(e) Communicate directly, as required, with participating and testing agencies, including NASA, and maintain effective liaison with them to insure maximum technical and operational compatibility of equipment and ensure that the system meets stated requirements.

(f) Coordinate planning and acquisition activities originating under this program with those of other USAF activities and other Services to minimize duplication of efforts and to maximize the interoperability of the CSOC and other programmed elements of the Space Control Network, e.g., Defense Meteorological Satellite Program (DMSP), Navstar Global Positioning System (GPS), Defense Support Program (DSP), and Space Defense Operations Center (SPADOC) as well as the Satellite Control Facility and Space Transportation System (STS) and new systems that may emerge. Identify impacts to the CSOC program arising from the acquisition of systems and/or interfaces to support the aforementioned programs. Planned SCN activities supported in the FY 84 POM that are not part of the CSOC program (PE 35130F) include:

1 A mid-CONUS tracking station collocated with the CSOC. This RTS will be developed and acquired by the Satellite Control Facility (PE 35110F) starting in FY 84 with IOC planned for 1985. The mid-CONUS station will be configured as an advanced remote tracking station. It will be compatible with the Data System Modernization architecture of the SCF and operate with both CSOC and the Satellite Test Center.

2 A new tracking station at Thule will be developed and acquired by the Satellite Control Facility (PE 35110F) starting in FY 84 with IOC planned for 1985. The Thule RTS will be DSM compatible and will have direct connectivity to the 4000th Satellite Operations Group at Offutt AFB, NE to meet DMSP support requirements for commanding and data readout. A backup for the 4000th will be provided at the DMSP Command and Readout Station (CRS) at Fairchild AFB, WA. When the Thule antenna is operational, the CRS at Loring AFB, ME will be closed.

3 An additional DSM tracking station will be deployed at Oakhanger, UK (PE 35110F) starting in FY 86 with IOC planned in 1988.

4 An enduring satellite control capability based on elements of the Air Force Satellite Control Plan. This includes: an internet capability between GPS ground antennas and SCF remote tracking stations (PE 35110F and PE 35165F); a backup GPS MCS at the STC (PE 35165F); development and production of a transportable/mobile ground station to support GPS and satellites supported by SCF (PE 63438F and PE 35110F); an advanced TT&C capability to increase bandwidth capacity and reduce susceptibility to jamming (PE 35110F); adaptation of satellite cross links to support TT&C requirements (PE 35110F); and technology development to provide generic autonomous satellite control subsystems (PE 63401F).

Direction for implementation of these capabilities will be provided in PMDs for each program.

(g) Plan, conduct and report on DT&E in accordance with AFR 80-14. Prepare a Test and Evaluation Master Plan (TEMP) with DT&E inputs provided by AFTEC and forward to AF/RDSL/XOORE/XOSO no later than the critical design review. Develop, in conjunction with AFTEC, a recommendation regarding the applicability of a joint test program in accordance with AFR 80-14.

(h) Conduct, with AFLC participation, an Integrated Logistics Support (ILS) program in accordance with AFR 800-8 to insure early application of ILS principles and insure logistics considerations are fully integrated into program activities. Consider long term operating and support costs as a major parameter in acquisition strategy. Establish with AFLC and the participating commands a logistics support concept based on the best mix of organic and contract support. Logistics cost drivers must be identified and programmatically addressed to acquire a mission effective system at least cost.

1 Develop an ILS Plan to ensure logistics elements are in place at program milestones. Forward a copy of the ILSP to AF/LEY when completed and update not later than 30 days prior to scheduled system acquisition reviews.

2 Establish a maintenance concept in accordance with AFR 66-14. Include in maintenance planning a Logistics Support Analysis that balances design and support. Accomplish a repair level analysis.

3 Develop and acquire support equipment in accordance with AFR 800-12 appropriate to the logistics support concept.

4 Develop, in conjunction with the affected commands, a Computer Resource Integrated Support Plan (CRISP) in accordance with AFR 800-14.

5 Acquire technical data in accordance with AFR 8-2 and AFR 310-1. Assess, with AFLC, the need for system engineering and reacquisition data; and acquire such data where appropriate.

6 Establish a supply support concept and plan with AFLC the most effective strategy to provide spares, either through organic provisioning or by contract support.

7 Conduct a Reliability and Maintainability (R&M) program in accordance with AFR 800-18. Establish quantitative R&M values developed for similar in service systems with a validated degree of needed improvement. Values are to be included in the PMP and a future revision of the PMD.

8 Decisions regarding organic versus contract depot maintenance will be made according to the Air Force Decision Tree process.

9 Provide, with AFLC, a recommendation regarding the need for Program Management Responsibility Transfer (PMRT) by July 1983 (ref AFR 800-4).

10 Consider concepts such as Reliability Improvement Warranty (RIW) to provide an incentive to design and produce more reliable equipment and reduce repair costs.

(i) Establish and maintain a system safety program, in accordance with AFR 800-16.

(j) Identify requirements for facilities needed to support the installation of systems/equipment acquired under this PMD. Develop a schedule of those items that must be accomplished to include CSOC construction as part of the FY 1983 Military Construction Program.

(k) Provide for orderly transition of the DOD Shuttle mission operations from NASA JSC to the CSOC. Provide a preliminary plan by 1 Sep 82 for this transition, including transfer of personnel from the Manned Space Flight Support Group (MSFSG) at JSC to the CSOC (ref. STS PMD paragraph 3.a (2)(d)7). Update as required.

(l) Provide for orderly transition of selected satellite program operations from STC to CSOC. Provide a preliminary plan for this transition, including transfer of personnel from the STC, by 1 Sep 82. Update as required.

(m) Prepare AF COMSEC Form 22, identifying quantity and type of COMSEC equipment needed and provide these requirements to AFCSC/ESC for acquisition.

(n) Develop and maintain, with SAC, ADC and AFCC assistance, a CSOC System Operational Concept (SOC) in accordance with AFR 57-1. Publish update of the SOC by Jul 82.

(o) Update the CSOC operational and support manpower justifications as required.

(p) Develop a System Security Concept by Jul 83 to define the security approach to be taken during the CSOC development. Prepare a CSOC Security Guide by 1 Oct 1982. Develop a preliminary System Security Standard by Sep 1982 in accordance with AFR 207-1 that describes operational site security requirements. It shall consider CSOC a Priority A resource and be written in accordance with AFR 207-1 and AFM 207-21. Establish and maintain a physical security program in accordance with AFR 207-1.

(q) Develop required host tenant agreements in accordance with AFR 11-4.

(r) Provide intelligence/threat estimates as indicated below:

1 Threat data will be provided in accordance with AFR 800-3 by AFSC from a current Threat Environmental Description (TED). AFSC will update or develop the TED. The TED will contain or reference sufficient threat data to accomplish interactive analysis, per DODD 5000.2 for system engineering, survivability/ vulnerability analysis (AFR 80-38), threat simulation for test and evaluation (AFR 80-14), security decisions and technology exploitation. From the interactive analysis, the threat parameters and issues/concerns (critical intelligence parameters) will be defined and forwarded by AFSC to HQ USAF and participating commands for comment.

2 Approximately one year prior to each schedule milestone review, AFSC will initiate the preparation of a Threat Assessment Report (TAR) for AF/IN approval and processing. The TAR will emphasize specific system features and critical intelligence parameters. The TAR will encompass the threat for the projected life of the CSOC.

(s) Prepare a CSOC Survivability Plan which provides specific time-phased, costed activities which will reduce and/or eliminate each identified vulnerability. Provide specific recommendations for a systematic survivability program to support the FY 85 POM submission.

(t) Determine, in conjunction with AFTEC and participating commands, the nature and scope of software testing to include independent verification and validation of new software and independent integration testing of existing software to be used in CSOC.

(u) Identify, in coordination with AFCC, responsibilities for programming, implementation, and O&M of C³ systems and specified ADP capabilities for the CSOC.

(v) Prepare, with ATC assistance, a CSOC training plan.

(w) Identify, within 60 days after receipt of this PMD, the preliminary CSOC requirements for DSM development in order to facilitate the functional integration of Shuttle and satellite control elements.

(x) Prepare a plan, with ADC assistance, for implementing CSOC/SPADOC mutual support functions identified per para 2.e(8). This plan should address hardware/software interfaces, procurement specifications and system operational concepts, as appropriate, and show the relationships between the SPADOC, CSOC and SCF DSM Program Offices in implementing CSOC/SPADOC mutual support. Provide plan to AF/RDS by Dec 82.

(y) Develop communications and frequency management requirements and submit in accordance with AFRs 100-18, 100-31 and 100-58. Initiate associated military construction projects.

(z) Establish a Training Planning Team in accordance with AFR 50-8. Develop a Training Program Development Management Plan in coordination with ATC and participating commands. Forward copies of this plan to AF/MPP by Aug 82 and update as required.

(aa) Prepare a Memorandum of Agreement with NASA that describes the extent of NASA participation in the design and activation of SOPC portion of CSOC. Required NASA support should be reflected in CSOC budget submissions.

(3) Participating Commands and the Operating Agency will, within existing resources, provide planning assistance and support (including personnel for test team manning) for testing as specified in the TEMP and Test Program Outline (TPO).

(4) ESC as participating command will:

(a) Provide COMSEC support in accordance with AFR 100-45.

(b) Assist the program office in CSOC Statement of Work preparation.

(c) Provide COMSEC and TEMPEST engineering support to the program office.

(d) Provide COMSEC material and equipment based on requirements provided by AFSC.

(e) Through the Air Force Cryptologic Service Center, provide COMSEC logistics support.

(f) Assist AFSC and AFTEC in COMSEC related DT&E and OT&E.

(5) ADC, SAC, AFCC, and AFTAC will provide their satellite support requirements to AFSC in sufficient time for accommodation in the budgeting process.

(6) ADC and SAC will:

(a) Interface with and provide documentation and staff assistance to AFSC in the development of the CSOC System Operational Concept, associated operational plans and Memoranda of Agreement.

(b) Make recommendations to AFSC and AFTEC on CSOC test requirements.

(c) Interface with and provide staff assistance to AFSC in preparation of CSOC manpower requirements and training plans.

(d) Coordinate with AFSC and AFLC in the definition of SPADOC/CSOC interfaces, including feasibility of joint use of support personnel and resources.

(e) Interface with AFSC in the determination of host base support requirements for CSOC.

(7) AFLC will:

(a) Assist AFSC in the development and implementation of integrated logistics support planning for the CSOC.

(b) Appoint a Deputy Program Manager for Logistics to serve as the ILS Director on the Program Manager's staff.

(c) Support AFSC and AFTEC in planning and conducting tests as documented in the TEMP and in the AFTEC Test Program Outline.

(d) Assist AFSC in developing a recommendation regarding the degree of contractor versus organic logistic support for CSOC.

(e) Assist AFSC, ADC, SAC and AFCC in defining support requirements.

(8) AFTEC, as the OT&E agency, will:

(a) Appoint a CSOC OT&E test director/test manager.

(b) Manage the OT&E portions of the CSOC testing, with operating command and participating command resource support.

(c) Provide assessments and reports for the appropriate milestones to HQ USAF in accordance with AFR 80-14.

(d) Prepare the OT&E portions of the TEMP* and Decision Coordinating Paper with participating command assistance.

(e) Identify projected OT&E cost elements and budgetary requirements to the Program Office no later than 30 Sep 82 to support an FY 85 POM submission. Update as required.

(9) ATC will assist implementing, participating, and supporting commands in:

(a) Defining training concepts.

(b) Identifying training requirements.

(c) Planning to satisfy identified requirements on a timely basis through a cost-effective mix of contract, resident, and non-resident training programs through application of the ISD process (reference AFRs 50-8, 50-9, 50-11, 50-18, and 50-23).

(d) Assessing costs and risks associated with training program alternatives.

(e) Preparing DCP/IPS documents and supporting data.

(f) Preparing training portions of the PMP and ILSP.

(g) Determining milestone schedules for development of planned training capabilities.

(10) AFCC will:

(a) Assist AFSC in developing, programming, and implementing C³ and specified ADP capabilities for the CSOC.

(b) Assist AFSC in writing the C³ and frequency management portion of the PMP.

(c) Fulfill remaining responsibilities as specified in the PMP.

(11) MAC will assist AFSC in determining weather support requirements and provide operational weather support.

b. Resources: CSOC funding began in FY 81. CSOC includes the Satellite Operations Center (formerly STC II) previously associated with PE 35110F. Manpower authorization for CSOC Program Office is included in PE 65806F starting in FY 81. Operation Manning of the CSOC is included in PE 35130F starting in FY 82. The MSFSG will provide initial training in Shuttle operations at JSC. MSFSG manning is provided in PE 35171F. Table 1 shows CSOC manpower, including the Base Operations Support (BOS) tail, contained in the FY 84 POM. This PMD neither authorizes or directs additional manpower authorizations.

c. Progress Reporting: The Program Office will provide a semi-annual program status review which contains end item descriptions, schedules, and a summary of current status for the projects, including fund obligations rates, and schedule or cost overruns which may have occurred within the CSOC program. This review will be prepared as of the last day of June and December and briefed at HQ USAF. Copies of these progress reviews will be sent to participating and supporting commands and agencies within 15 days of closeout.

d. Points-of-Contact: Each agency addressed in this PMD will provide the Program Office with a point of contact for this program within 30 days of receipt of this PMD.

e. Management Relationships: Detailed management relationships will be defined in the PMP.

f. Acquisition: All acquisition will be in accordance with Defense Acquisition Regulations. Within the constraints of program direction, resources and schedules, the acquisition planning will ensure that competitive tradeoffs between system designs are accomplished before a full scale engineering development commitment is made. The DSM acquisition contract includes options to acquire the technical systems and software for the CSOC. The CSOC acquisition strategy will provide the optimum degree of competition within the constraints of this PMD.

TABLE 1
CSOC MANPOWER - FY 84 POM

Program Element Code

	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>
35130A CSOC OPS (AFSC)								
O	0	0	44	287	592	455	455	455
A	0	0	3	52	310	420	420	420
C	0	0	0	0	0	381	381	381
T	<u>0</u>	<u>0</u>	<u>47</u>	<u>339</u>	<u>902</u>	<u>1256</u>	<u>1256</u>	<u>1256</u>
33110Y DSCS Comm (AFCC)								
O	0	0	0	1	1	1	1	1
A	0	0	0	0	14	25	25	25
C	0	0	0	1	1	1	1	1
T	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>16</u>	<u>27</u>	<u>27</u>	<u>27</u>
35111J Weather Service (MAC)								
O	0	0	3	6	6	6	6	6
A	0	0	0	0	0	0	0	0
C	0	0	0	1	1	1	1	1
T	<u>0</u>	<u>0</u>	<u>3</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>
11894A RPM (SAC)								
O	0	0	0	0	0	0	0	0
A	0	0	0	1	3	5	5	5
C	0	0	0	1	3	5	5	5
T	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>6</u>	<u>10</u>	<u>10</u>	<u>10</u>
11896A BOS (SAC)								
O	0	0	0	1	3	4	4	4
A	0	0	6	42	112	157	157	157
C	0	0	1	6	16	22	22	22
T	<u>0</u>	<u>0</u>	<u>7</u>	<u>49</u>	<u>131</u>	<u>183</u>	<u>183</u>	<u>183</u>
35171B MSFSG (AFSC)								
O	45	45	113	113	113	113	113	113
A	3	3	3	3	3	3	3	3
C	6	6	9	9	9	9	9	9
T	<u>54</u>	<u>54</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>
65806K SPO (AFSC)								
O	37	34	66	66	60	54	54	54
A	1	2	2	2	1	1	1	1
C	21	21	35	32	30	20	20	20
T	<u>59</u>	<u>57</u>	<u>103</u>	<u>100</u>	<u>91</u>	<u>75</u>	<u>75</u>	<u>75</u>
72891A Commissary (AFCOMS)								
O	0	0	0	0	0	0	0	0
A	0	0	0	0	0	0	0	0
C	0	0	1	5	12	17	17	17
T	<u>0</u>	<u>0</u>	<u>1</u>	<u>5</u>	<u>12</u>	<u>17</u>	<u>17</u>	<u>17</u>
87792A Medical (SAC)								
O	0	0	0	1	2	4	4	4
A	0	0	1	2	7	11	11	11
C	0	0	0	1	2	3	3	3
T	<u>0</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>11</u>	<u>18</u>	<u>18</u>	<u>18</u>
Total								
O	82	79	227	475	777	637	637	637
A	4	5	17	102	450	622	622	622
C	27	27	46	56	74	459	459	459
T	<u>113</u>	<u>495</u>	<u>280</u>	<u>633</u>	<u>1301</u>	<u>1718</u>	<u>1718</u>	<u>1718</u>

g. Life Cycle Costs: Life Cycle Costs (LCC) will be used in all cost effectiveness studies during system design, acquisition decisions and evaluation of Engineering Change Proposals.

h. Schedules:

(1) The Program Office will develop and maintain a CSOC master project schedule and include this schedule in the semi-annual status review.

(2) Completion dates for tasks directed in this PMD are summarized as follows:

<u>ITEM</u>	<u>PMD Ref</u>	<u>DUE DATE</u>	<u>ACTION</u>
Program Review	3.c	Semi-Annual	AFSC
Program Management Plan	3.a.(2)(d)	Sep 82	AFSC
Test and Evaluation Master Plan	3.a.(2)(g)	Sep 82	AFSC/AFTEC
Integrated Logistics Support Plan	3.a.(2)(h) <u>1</u>	Sep 82	AFSC
Computer Resource Integrated Support Plan	3.a.(2)(h) <u>4</u>	Sep 82	AFSC
PMRT Recommendation	3.a.(2)(h) <u>9</u>	Jul 83	AFSC/AFLC
Shuttle Operations Transition Plan	3.a.(2)(k)	Nov 82	AFSC
Satellite Operations Transition Plan	3.a.(2)(l)	Nov 82	AFSC
Manpower Justification and Manning Schedules	3.a.(2)(o)	Update as required	AFSC
System Security Standard	3.a.(2)(p)	Jul 83	AFSC
Threat Environmental Description	3.a.(2)(r) <u>1</u>	Update as required	AFSC
CSOC Survivability Plan	3.c.(2)(s)	Dec 82	AFSC
CSOC OPS Concept	3.a.(2)(n)	Jul 82	AFSC
CSOC/SPADOC Mutual Support Plan	3.a.(2)(x)	Dec 82	AFSC/ADC
Training Support	3.a.(2)(z)	Aug 82	ATC
MOA on NASA Support for SOPC	3.a.(2)(aa)	Dec 82	AFSC/NASA

4. PROGRAM MANAGEMENT GUIDANCE: Authority to deviate for cause from the following guidance is delegated to HQ AFSC. Deviations from this guidance will be identified to AF/RDS.

a. General Characteristics of Equipment: The systems acquisition directed by this PMD is intended to provide services to the Shuttle and satellites during design, development, test, and operation. As such the equipment procured must consider certain features which include, but are not necessarily limited to the following:

(1) Maintenance and Operations: Determination of the Air Force/contractor manpower mix for the CSOC will be based on AFM 26-1. Increased organic involvement in DOD Shuttle and satellite control will be balanced against operational needs, the availability of critical skills, and associated personnel considerations.

(2) Growth Potential: All equipment and facilities should be designed and acquired with provisions such that additional subsystems or components may be cost effectively added at a later date. Systems should be designed to the extent that logical improvements and additions can be accommodated both physically and electronically.

(3) Minimum Manpower Support Requirements: Systems should be designed to reduce manpower to an absolute minimum essential level. Where practical, every effort should be made to consolidate manpower specialties and skills with the skills required for other systems planned or already in the inventory such that best use can be made of available personnel resources. Due to the forecast scarcity of officers with technical and space operations backgrounds, it is essential that early identification of manpower requirements be made. Manpower requirements should be submitted through manpower channels IAW AFM 26-1.

(4) Commonality of Components, Subsystems, and Systems: The CSOC should make maximum use of existing technology and emphasize the use of off-the-shelf components. Every reasonable effort should be made to use components already developed and in the logistics supply system or planned to enter the logistics channels.

(5) Compatibility of Data Output Products: Every reasonable effort should be expended to assure compatibility of data outputs from similar equipment of other national ranges, and space command and control facilities. In addition to flexibility in adapting data according to user needs, it is desirable that standardization and commonality be practiced where possible to provide more efficient transfer of data between ranges and space command and control facilities.

b. Data Automation: The Air Force ADP Program Single Manager will participate as the Office of Collateral Responsibility (OCR) for Automated Data Processing (ADP) policy guidance, and will participate in the final determination of whether ADP resources required within the CSOC program are to be acquired and managed in accordance with AFR 800-2 or AFR 300-2.

c. Security: AFSC will prepare a CSOC Security Classification Guide. Subsystems/equipment that will be capable of processing/transmitting classified data will conform to the requirements of AFR 300-8 and 100-45.

d. Test and Evaluation. AFSC and AFTEC will make recommendations to HQ USAF/RDSL/XOORE concerning the advisability of conducting combined versus separate DT&E and IOT&E.

e. Public Release: Information on this program for public release will be processed in accordance with AFR 190-1.

FOR THE CHIEF OF STAFF



2 Atch

1. Annex A - References
2. Distribution List

BERNARD P. RANDOLPH, Brigadier General, USAF
Director of Space Systems and Command,
Control, Communications
DCS/Research, Development and Acquisition

ANNEX A - REFERENCES

1. Required Documents:

- (a) Mission Element Need Statement, Subject: DOD Shuttle Control Capability, approved 29 Sep 79 (S).
- (b) Mission Element Need Statement, Subject: Satellite Control Capability, approved 29 Sep 79 (S).
- (c) Presidential Directive NSC-37, Subject: National Space Policy, 11 May 1978 (TS).
- (d) Presidential Directive NSC-42, Subject: Civil and Further National Space Policy, 10 Oct 78 (S).
- (e) Presidential Directive NSC-53, Subject: National Security Telecommunications Policy, 15 Nov 79.
- (f) Air Force Satellite Control Facility Security Classification Guide, Aug 79.
- (g) Space Transportation System Security Classification Guide, Aug 79.
- (h) NASA/DOD Memorandum of Understanding on Management and Operation of the Space Transportation System, 27 Mar 80.
- (i) SECDEF Memorandum to SAF, Subject: DOD Shuttle and Satellite Control Capabilities, 29 Sep 79.
- (j) AF/CC Letter, Subj: AF Satellite Control Policy, 27 Mar 82

2. Related Documents:

- (a) PMD No. R-S 9038()/PE 35110F, Air Force Satellite Control Facility Improvement and Modernization Program, latest edition.
- (b) PMD No. R-S 5068()/PE 63411F/12449f, DOD Space Transportation System Acquisition Activities, latest edition.
- (c) PMD No. R-S 4068()/PE 63428F, 63438F, 64406F, 12311F, 12405F, 12424F, Space Defense Operations Center, latest edition.
- (d) PMD No. R-S 7123()/PE 35171, Space Launch Support, latest edition.
- (e) Air Force Satellite Control Facility Test and Evaluation Support Resource Plan, FY 82 - FY 86, Jan 80, RCS-SYS-TEU(A)7603, (S).
- (f) HQ USAF Report on the Site Selection for the Consolidated Space Operations Center, December 79.
- (g) ASD(C³I) Memorandum for SAF, Subj: Space Defense Operations Center, 1 March 79.

(h) HQ USAF Report to the Office of Management and Budget on the Satellite and DOD Shuttle Control Capabilities, August 79 (S).

(i) Shuttle Mission Operations Task Force Evaluation (SMOTE) Report, HQ USAF, July 79 (TS).

(j) AF Satellite Control Plan Briefing, Dec 1981.

(k) PMD No. R-S 4075()/PE 64778F/35164F/35165F, Global Positioning System, latest edition.

(l) PMD No. R-S 3015()/PE35160/35162F, Defense Meteorological Satellite System, latest edition.

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